# Air Quality Permitting
# Statement of Basis

February 9, 2007

## Tier I Operating Permit No. T1-060050

## Ada County Solid Waste Management Department
## Ada County Landfill

## Boise, Idaho

## Facility ID No. 001-00195

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**DRAFT FOR PUBLIC COMMENT**

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# Acronyms, Units, and Chemical Nomenclature

| | |
|---|---|
| ACLF | Ada County Landfill operation |
| AFS | AIRS Facility Subsystem |
| AQCR | Air Quality Control Region |
| AIRS | Aerometric Information Retrieval System |
| Btu | British thermal unit |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| CAM | compliance assurance monitoring |
| DEQ | Department of Environmental Quality |
| EI | emissions inventory |
| EPA | U.S. Environmental Protection Agency |
| HAPs | hazardous air pollutants |
| HHLF | Hidden Hollow Landfill cell |
| hp | horsepower |
| IDAPA | a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act |
| lb/hr | pound per hour |
| LFG | landfill gas |
| MACT | Maximum Achievable Control Technology |
| MMBtu | million British thermal units |
| MSW | municipal solid waste |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| $NO_x$ | nitrogen oxides |
| NRC | North Ravine Cell |
| NSPS | New Source Performance Standards |
| PM | particulate matter |
| $PM_{10}$ | particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers |
| PSD | Prevention of Significant Deterioration |
| PTC | permit to construct |

| | |
|---|---|
| Rules | Rules for the Control of Air Pollution in Idaho |
| SB | statement of basis |
| scfm | standard cubic feet per minute |
| SIC | Standard Industrial Classification |
| SIP | State Implementation Plan |
| SM | synthetic minor |
| $SO_2$ | sulfur dioxide |
| SSM | Startup, Shutdown, and Malfunctions |
| TAPs | toxic air pollutants |
| Tier I | Tier I operating permit |
| T/yr | tons per year |
| UTM | Universal Transverse Mercator |
| VOC | volatile organic compound |

## 1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this Tier I operating permit (Tier I) in accordance with IDAPA 58.01.01.362.

The Department of Environmental Quality (DEQ) has reviewed the information provided by Ada County Solid Waste Management Department – Ada County Landfill regarding the operation of its facility located in Boise. This information was submitted based on the requirements to submit a Tier I application in accordance with IDAPA 58.01.01.859 and 40 CFR 60 Subpart WWW.

## 2. FACILITY DESCRIPTION

Ada County Landfill is composed of four distinct and separate operations. They are municipal solid waste landfill, recycling, wood chipping, and screening.

## 3. FACILITY/AREA CLASSIFICATION

Ada County Landfill is not a major facility as defined in IDAPA 58.01.01.205, nor is it a designated facility as defined in IDAPA 58.01.01.006.27. The potential to emit of any criteria air pollutant is below 100 T/yr, and potential emissions rates for HAPs are below 25 T/yr collectively, and less than 10 T/yr for any single HAP. The primary Standard Industrial Classification (SIC) code for the facility is 4953, refuse systems. The facility is defined as a synthetic minor (SM) facility because, without using the control system as required in 40 CFR 60 Subpart WWW, the total HAPs collected from the collection system would exceed the major source threshold level for total HAPs of 25 tons per year. However, the Tier I is required because of the reasons listed under Section 4 of the SB.

The facility is not subject to Prevention of Significant Deterioration (PSD) requirements, because its potential to emit is less than all applicable PSD major source thresholds.

Ada County Landfill is located at 100300 Seamans Gulch Road, northwest of Boise, in Ada County, Idaho. Ada County Landfill is located within Air Quality Control Region (AQCR) 64 and UTM zone 11. The area is designated as maintenance area for CO and $PM_{10}$, and as unclassifiable for other regulated criteria air pollutants (i.e., NOx, SO2, lead, and ozone).

The AIRS information provided in Appendix A defines the classification for each regulated air pollutant at Ada County Solid Waste Management – Ada County Landfill. This required information is entered into the EPA AIRS database

## 4. APPLICATION SCOPE

The Ada County Solid Waste Management Department is required to obtain a Title V Operating Permit for the Ada County Landfill (ACLF) in accordance with permitting requirements in IDAPA *58.01.01.859 - Standards of Performance For Municipal Solid Waste Landfills that Commenced Construction, Reconstruction or Modification On or After May 30,1991,*and *40* CFR *60* Subpart WWW *- Standards of Performance for Municipal Solid Waste Landfills.* This Title V/Tier I application has been prepared to satisfy the requirements in the cited provisions above.

## 5. SUMMARY OF EVENTS

| | |
|---|---|
| September 15, 2006 | DEQ received Tier I operating permit application. |
| November 14, 2006 | DEQ declared the application complete. |

December 20, 2006 The draft permit was sent out for Boise Regional Office review.

January 12, 2006 DEQ sent the facility draft permit for the facility review.

### 5.1 Permitting History

May 18, 2006 PTC No. P-050056. It was a PTC modification to add North Ravine Cell. The PTC replaced the PTC No. P-040004 issued June 15, 2004.

June 15, 2004 PTC No. P-040004. The PTC was being issued for the construction of two flares and for the operation of an existing wood chipper, power screen, and two diesel engine generators.

## 6. PERMIT ANALYSIS

### 6.1 Basis of Analysis

The following documents were relied upon in preparing this memorandum and the Tier I:

- PTC No. P-050056, issued May 18, 2006
- Tier I application received September 15, 2006
- Guidance developed by the U.S. Environmental Protection Agency (EPA) and DEQ

### 6.2 Emissions Description and Emissions Inventory

A detailed emissions description and emissions inventory (EI), including TAP and HAP emissions, was provided in the Tier I application. The EI has been reviewed by DEQ and appears to accurately reflect emissions from the facility. Table 6.1 provides a summary of the EI. The detailed calculation can be found in Appendix B.

**Table 6.1 EMISSIONS ESTIMATES (T/yr)[a]**

| Pollutant | $PM_{10}$[b] | $NO_x$[c] | $SO_2$[d] | CO[e] | VOC[f] | Pb[g] | HAPs[h] | TAPs[i] |
|---|---|---|---|---|---|---|---|---|
| **Point Sources** | | | | | | | | |
| Flares | 24.11 | 45.92 | 7.0 | 11.48 | 35.02 | 0 | 3.68 | 3.81 |
| Wood chipper generator | 0.50 | 8.84 | 4.43 | 1.57 | 0.20 | 0 | 0.013 | 0.013 |
| Power screen generator | 0.44 | 6.25 | 0.41 | 1.35 | 0.5 | 0 | 0.009 | 0.009 |
| Total, point sources | 25.05 | 61.01 | 11.84 | 14.4 | 35.72 | 0 | 3.702 | 3.832 |
| **Fugitive Sources** | | | | | | | | |
| Wood chipper fugitives | 0.15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Power screen fugitives | 0.01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wood Chipper Storage Piles | 0.003 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Paved/unpaved Roads | 96.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Landfill Operations (Dozing) | 0.58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Landfill Operations (Grading) | 1.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total, fugitive sources | 98.74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

a tons per year
b particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers. For the flares emissions it is assumed that PM = $PM_{10}$. From AP-42, Table 2.4-5. Emissions are based on data for other combustion sources. Emission rate can be used to provide estimates of $PM_{10}$ or $PM_{2.5}$.
c oxides of nitrogen
d sulfur dioxide
e carbon monoxide
f volatile organic compounds
g Lead
h hazardous air pollutants
i toxic air pollutants

## 7. REGULATORY ANALYSIS

Ada County Landfill Operation

Municipal solid waste landfill operation at Ada County Landfill is subject to the following requirements:

### 7.1 IDAPA 58.01.01. 859 – Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction or Modification on or After May 30, 1991

The landfill operation at Ada County Landfill has been expanded to include NRC. The expansion project is a modification in accordance with IDAPA 58.01.01.859.02.e. Therefore, the landfill operation at Ada County Landfill is subject to this regulation when NRC commenced construction in March 2006 per the information in the Tier I application.

Per IDAPA 58.01.01.859.04.b, Ada County Landfill is required to submit a complete Title V application within one year of the modification. The modification date is when NRC commenced construction in March 2006 per the information in the Tier I application.

### 7.2 New Source Performance Standards (NSPS) – 40 CFR 60 Subpart WWW- Standards of Performance for Municipal Solid Waste Landfills and Subpart A General Provision

40 CFR 60 Subpart WWW applies to each municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991. The landfill operation at Ada County Landfill is modified when it was expanded to include NRC. The NRC commenced construction in March 2006 per the information in the Tier I application.

The landfill operation at Ada County Landfill is subject to 40 CFR 70 requirements in accordance with 40 CFR 60 Subpart WWW.

The landfill operation at Ada County Landfill is subject to 40 CFR 60 Subpart A General Provisions.

### 7.3 National Emission Standards for Hazardous Air Pollutants (NESHAPS) – 40 CFR Parts 63 Subpart AAAA - Municipal Solid Waste Landfill

40 CFR 63 Subpart AAAA applies to Ada County Landfill because Ada County Landfill has accepted waste since November 8, 1987 and is an area source landfill that has a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and that is not permanently closed as of January 16, 2003.

Flare System at Ada County Landfill

The flare system at Ada county landfill is subject to the following requirements:

### 7.4 IDAPA 58.01.01.786 –Prevent Excessive Emissions of Particulate Matter from Incinerators - PM Emissions Limit

Emissions limit for PM. The facility is in compliance with this requirement.

**7.5 IDAPA 58.01.01.157 –Performance Testing**

Wood chipper generator and Power screen generator at Ada County Landfill

Wood chipper generator and Power screen generator at Ada County Landfill is subject to the following requirements.

**7.6 IDAPA 58.01.01.728 –Sulfur Content of Distillate Fuel Oil**

The fuel used for wood chipper generator and power screen generator is subject to the requirement.

Ada County Landfill Facility-wide Requirements

Ada County Landfill is subject to the following requirements facility wide.

**7.7 IDAPA 58.01.01.650-651 – Reasonable Fugitive Control**

**7.8 IDAPA 58.01.01.775-776 – Odors**

**7.9 IDAPA 58.01.01.625 – Visible Emissions**

**7.10 IDAPA 58.01.01.130-136 – Excess Emissions**

**7.11 IDAPA 58.01.01.322.07 – Monitoring and Recordkeeping**

**7.12 IDAPA 58.01.01.600-617 – Open Burning**

**7.13 40 CFR 61 Subpart M - National Emission Standard for Asbestos. Standard for active waste disposal sites**

**7.14 40 CFR 82 Subpart F - Recycling and Emissions Reduction; regulations pertaining to use and handling of ozone-depleting substances**

**7.15 40 CFR Part 68 – Risk Management Plan (RMP) Chemical Accident Prevention Provisions**

At this time the RMP rules do not apply as no regulated toxic or flammable substances are present in a process at the ACLF above the thresholds found at 40 CFR 68.130. Should regulated toxic or flammable substances at Ada County Landfill exceed the thresholds found at 40 CFR 68.130, Ada County Landfill will be subject to this requirement.

Non-applicable

Ada County Landfill is not subject to the following requirements.

**7.16 New Source Performance Standards (NSPS) – 40 CFR 60.18 (flares)**

Flare is defined in 40 CFR 60 Subpart WWW as an open combustor without enclosure or shroud.

The ACLF currently uses two enclosed blower-assisted flares. They are enclosed combustors and not subject to this requirement.

*Enclosed combustor* is defined in 40 CFR 60 Subpart WWW as meaning an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. An enclosed flare is considered an enclosed combustor.

### 7.17 40 CFR 64 – Compliance Assurance Monitoring (CAM)

The flares at the ACLF are not subject to enhanced monitoring as found at IDAPA 58.01.01.314.09(iv), later modified to the "Compliance Assurance Monitoring," (CAM) Rule at 40 CFR Part 64. As per this regulation, emission limitations or standards proposed after November 15, 1990, pursuant to Clean Air Act section 111 or 112 are exempt from CAM (40 CFR §64.2(b)(1)). All applicable monitoring requirements from Subpart WWW have been included in the permit. Since Subpart WWW was promulgated on March 1996 under the authority of Clean Air Act Section 111 for New Source Performance Standards (NSPS), this standard is exempt from CAM requirements and no additional monitoring has been incorporated into the permit application.

### 7.18 40 CFR Part 52.21 – Prevention of Significant Deterioration (PSD)

The PSD rules found at 40 CFR 52.21 and IDAPA 58.01.01.205 do not apply to the landfill as the regulated pollutants in this section, after controls, do not equal or exceed the major stationary source threshold of 250 tons per year (40 CFR 52.21(b)(1)(i)(b).

### 7.19 IDAPA 58.01.01.676-677 – Fuel Burning Equipment

The generators are internal combustion engines. The combustion of the fuel takes place in a confined space, producing expanding gases that are used directly to provide mechanical power. The engines do not produce heat or power through indirect heat transfer. Therefore, it is not fuel burning equipment as defined in IDAPA 58.01.01, and this regulation does not apply to the emergency generator.

The flare system is not fuel burning equipment as defined in IDAPA 58.01.01, and is not subject to this regulation.

### 7.20 40 CFR 60.18 - General Provision, General control device requirements

The flare requirements apply to open flare systems. Ada County Landfill's two enclosed flares are not subject to the requirements.

## 8. PERMIT ANALYSIS

### *Facility-wide Conditions*

The facility-wide permit conditions are taken from the template and applicable to the entire facility. The discussion of these permit conditions is included in Appendix D.

### *Landfill Operation at Ada County Landfill*

### 8.1 Emission Unit Description

Process Description

The landfill operation at Ada County Landfill (ACLF) consists of the existing active HHLF cell and the newer constructed NRC, which is planned to accept municipal solid waste (MSW) in 2007. The HHLF cell encompasses an area of approximately 110 acres with design capacity of 16 million cubic yards and is anticipated to be closed in 2020. The NRC was designed to have a final capacity of 70 million cubic yards and an active life of 90 years based on the anticipated growth patterns. The NRC encompasses an area of approximately 260 acres.

ACLF generates odorous landfill gas (LFG). LFG is a byproduct produced from decomposition of organic material in the MSW landfill. LFG is typically a mixture of approximately 50% methane and 50% carbon dioxide, and a minor amount of nonmethane organic compounds (NMOC). Within the NMOC are some hazardous air pollutants (HAPs) and toxic air pollutants (TAPs). A trace amount of hydrogen sulfide gas is also found in the LFG. Landfills may continue to generate LFG for 10 to 20 years, or longer, after waste disposal has ceased.

Emissions Control Description

The LFG collection system and control system are required to control the LFG from ACLF in accordance with 40 CFR 60, Subpart WWW. The timeframe to install and operate the LFG collection system and control system to control the LFG produced at ACLF is specified in 40 CFR 60, Subpart WWW, which is included in this permit.

The existing ACLF gas collection system and control system (two identical enclosed flares system) began operating in May 2004 as a voluntary control measure. The existing LFG collection system provides gas collection for the phase I closure of the HHLF cell that is 46 acres of the 110-acre HHLF cell surface. The existing control system is designed to accommodate potential HHLF cell LFG flows with the total design capacity of 4,000 scfm. Based on LANDGEM modeling data using the anticipated growth patterns, the existing control system has the capacity to control LFG flows of HHLF and NRC cells until 2038 per the currently available data.

Additional flare(s) will need to be installed onsite before the design capacity of the existing control system is exceeded. The future gas flare site is included in Figure 1 of the application. G2 Energy (Facility ID 001-00214) has been permitted to produce electrical energy using LFG from ACLF. G2 Energy is a private company. It is independent from ACLF operations.

The Existing Control System – two identical enclosed LFG Flares

The existing LFG control system consists of the following components:

- Condensate system (condensate traps, pump, and controls)
- Two variable speed exhausters (blowers)
- Two enclosed, smokeless flare units
- Two propane tank ignition systems

The extracted LFG is drawn to the flare system by two exhausters (vacuum blowers). Condensate is captured ahead of the exhausters and stored in small storage vessels (knockout drums). The condensate is automatically separated and pumped into the flare stacks at a controlled rate. The condensate is expected to consist primarily of water vapor generated at a rate of approximately 0.004 gallon per cubic foot of LFG. The exhausters blow the LFG into the flares. Two enclosed flares, each capable of handling between 200 scfm and 2,000 scfm of LFG, will be operated in parallel. Only one flare is necessary to operate, and the second flare is kept on stand-by as a back-up at the time of issuing this permit. Propane-fired pilots will provide for continuous auto-ignition of the LFG. Sensors (thermocouples) in the flare stacks will continuously monitor flare operations. In the event the flame goes out, the integrated control system will shutdown the flares. The flares are enclosed. The flare flame can not be seen. However, system operators are able to monitor the presence of the flame through sight glasses of the enclosure.

The physical and operation specifications for each flare, based on an initial manufacturer's submittal, are listed as follows:

| | |
|---|---|
| Manufacturer/Model: | John Zink enclosed ZTOF flare system |
| Height: | 40 feet |
| Diameter: | 12.0 feet |
| Exhaust flowrates: | 200 to 2,000 scfm |
| Operating temperature: | 1,400 to 1,800 $^{o}$F |
| Heat Release: | Maximum 65.52 MMBtu/hr |

The NMOC and methane are combusted by the enclosed flares at temperature between 1,400 – 1,800$^{o}$F. According to the manufacturer, the flares at this temperature will achieve a NMOC destruction efficiency of 98%, with a residence time of 0.7 seconds.

### 8.2 Permit Conditions

The landfill operation at Ada County Landfill is subject to permit conditions under permit section "Hidden Hollow Landfill (HHLF) cell and North Ravine Cell (NRC)." The permit conditions of the section are taken from PTC No. P-050056 issued May 18, 2006. Except for changing the section number from 2 to 3, the sequence of the permit conditions is the same as those in the PTC. Detailed discussions on these permit conditions can be found in the SB of the PTC.

## *Wood Chipper, Power Screen, and Two Diesel Engine Generators*

### 8.3 Emission Unit Description

Process Description

Wood chipping and screening operation at Ada County Landfill uses a wood chipper and power screen to separate processed wood debris material into various sizes. The wood chipper consists of a 12 foot diameter cone to cut and shred various wood debris materials (i.e., stumps, logs, brush, yard waste, pallets, and construction waste). The chipper is powered by a 650 horsepower diesel engine generator. Wood debris material is loaded into the 12-foot cone and processed through a drop chute onto a conveyor. The conveyor transport the wood debris material to a power screen which further separates the processed material by shaking out the wood chips and debris into various sizes. The power screen is powered by a 106 horsepower diesel engine generator.

Emissions Control Description

Particulate matter emissions from the wood chipper and from the power screen are uncontrolled. Emissions from the two diesel engine generators are uncontrolled.

### 8.4 Permit Conditions

Wood chipping and screening operation at Ada County Landfill is subject to permit conditions under permit section "Wood Chipper, Power Screen, and Two Diesel Engine Generators." The permit conditions of the section are taken from PTC No. P-050056 issued May 18, 2006. Except for the section number changed from 3 to 4, the sequence of the permit conditions is the same as those in the PTC. Detailed discussions on these permit conditions can be found in the SB of the PTC.

## 9. INSIGNIFICANT ACTIVITIES

Insignificant activities list is included in Appendix E.

## 10. ALTERNATIVE OPERATING SCENARIOS

The facility did not request any alternative operating scenarios.

## 11. TRADING SCENARIOS

There are no trading scenarios presented in this application.

## 12. COMPLIANCE SCHEDULE

### 12.1 Compliance Plan

The requirements to which the facility will be subject in the future are detailed out in the compliance plan in the application. The compliance plan is included in Appendix C.

### 12.2 Compliance Certification

Ada County Landfill located in Boise is required to periodically certify compliance in accordance with General Provision 21. The facility shall submit an annual compliance certification for each emissions unit to DEQ and EPA, in accordance with IDAPA 58.01.01.314.10. The compliance certification report shall address the compliance status of each emissions unit with the terms and conditions of this permit.

## 13. PERMIT REVIEW

### *13.1 Regional Review of Draft Permit*

DEQ provided the draft permit to Boise Regional Office on December 20, 2006. No comments were received from Boise Regional Office.

### *13.2 Facility Review of Draft Permit*

DEQ provided the draft permit to Ada County Solid Waste Management Department-Ada County Landfill, Boise for its review on January 12, 2007. The comments were received on January 19, 2007. The comments related to this permit action were addressed in the permit.

### *13.3 Public Comment*

DEQ will provide a public comment in accordance with IDAPA 58.01.01.300. The state of Oregon is within 50 miles of this Tier I Source and is an affected state. As such, notification of the public comment period will be provided as required by IDAPA 58.01.01.364.

## 14. ACID RAIN PERMIT

The facility is not subject to an acid rain permit.

## 15. REGISTRATION FEES

This facility is a not a major facility as defined by IDAPA 58.01.01.008.10; therefore, registration and registration fees do not apply.

## 16. RECOMMENDATION

Based on the Tier I operating permit application and review of state rules and federal regulation, staff recommends that DEQ issue a draft Tier I Operating Permit No. T1-060050 to Ada County Solid Waste Management Department-Ada County Landfill for its Boise facility. The permit is made available for public comment as required by IDAPA 58.01.01.364. The project does not involve PSD permitting requirements.

SYC/bf Permit No. T1-060050

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# Appendix A

Ada County Solid Waste Management Department
Ada County Landfill
Boise, Idaho

Tier I Operating Permit No. T1-060050

Facility ID No. 001-00195

# AIRS Data Entry Form

# AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

**Facility Name:** Ada County – Ada County Landfill
**Facility Location:** Boise
**AIRS Number:** 001-00195

| AIR PROGRAM POLLUTANT | SIP | PSD | NSPS (Part 60) | NESHAP (Part 61) | MACT (Part 63) | SM80 | TITLE V | AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment |
|---|---|---|---|---|---|---|---|---|
| $SO_2$ | B | | | | | | | U |
| $NO_x$ | B | | | | | | | U |
| CO | B | | | | | | | U |
| $PM_{10}$ | B | | | | | | | U |
| PT (Particulate) | B | | | | | | | |
| VOC | SM | | SM | | | | | U |
| THAP (Total HAPs) | SM | | | | SM | | SM | |
| | | | APPLICABLE SUBPART | | | | | |
| | | | WWW | | AAAA | | | |

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, **or** each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

# Appendix B

Ada County Solid Waste Management Department
Ada County Landfill
Boise, Idaho

Tier I Operating Permit No. T1-060050

Facility ID No. 001-00195

# Emissions Inventory

**TABLE 4.9-2**
Potential Emission Estimates Summary

| Pollutant | $PM_{10}$ | | $NO_X$ | | $SO_2$ | | CO | | VOC | | HAPs | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| Flares | 5.50 | 24.11 | 10.48 | 45.92 | 1.59 | 7.0 | 2.62 | 11.48 | 0.08 | 35.02 | 0.84 | 3.68 |
| Wood Chipper Generator (WC-1) | 0.30 | 0.50 | 5.36 | 8.84 | 2.69 | 4.43 | 0.95 | 1.57 | 0.12 | 0.20 | 0.00714 | 0.0131 |
| Power Screen Generator (PS-01) | 0.27 | 0.44 | 3.79 | 6.25 | 0.25 | 0.41 | 0.82 | 1.35 | 0.30 | 0.50 | 0.00347 | 0.00902 |
| Wood Chipper Fugitive (WC-02) | 0.093 | 0.15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Power screen Fugitives (PS-02) | 0.00538 | 0.01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wood Chipper Storage Piles (WC-03) | 0.00179 | 0.00296 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Paved/unpaved Roads | 57.5 | 96.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Landfill Operations (Dozing) | 0.47 | 0.58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Landfill Operations (Grading) | 0.92 | 1.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **65.06** | **123.79** | **19.63** | **61.01** | **4.53** | **11.84** | **4.39** | **14.4** | **0.50** | **35.72** | **0.85** | **3.70** |

## Landfill Emissions Calculations

***Potential Summary of Emissions - Maximum Flow***

*Based on Design Maximum rates*

| | Flare - Controlled | |
|---|---|---|
| | (Tons/yr) | (lb/hr) |
| Carbon Dioxide | 111,187 | 25,385 |
| **Sulfur Dioxide** | **7.0** | **1.59** |
| **Nitrogen Oxides** | **23.0** | **5.24** |
| **Carbon Monoxide** | **5.74** | **1.31** |
| **PM10** | **12.05** | **2.75** |

| HAP/VOC | | Flare - Controlled (Tons/yr) | Flare - Controlled (lb/hr) |
|---|---|---|---|
| HAP | 1,1,1-Trichloroethane | 2.97E-03 | 6.79E-04 |
| HAP/VOC | 1,1,2,2-Tetrachloroethane | 8.65E-03 | 1.97E-03 |
| HAP/VOC | 1,1,2-Trichloroethane | 6.19E-04 | 1.41E-04 |
| HAP/VOC | 1,1-Dichloroethane (ethylidene dichloride) | 1.08E-02 | 2.46E-03 |
| HAP/VOC | 1,1-Dichloroethene (vinylidene chloride) | 9.00E-04 | 2.05E-04 |
| HAP/VOC | 1,2-Dichloroethane (ethylene dichloride) | 1.88E-03 | 4.30E-04 |
| HAP/VOC | 1,2-Dichloropropane (propylene dichloride) | 9.44E-04 | 2.16E-04 |
| VOC | 2-Propanol (isopropyl alcohol) | 2.10E-02 | 4.79E-03 |
| * | Acetone | 2.83E-03 | 6.47E-04 |
| HAP/VOC | Acrylonitrile | 2.34E-03 | 5.34E-04 |
| VOC | Bromodichloromethane | 2.38E-02 | 5.43E-03 |
| VOC | Butane | 2.04E-03 | 4.65E-04 |
| HAP/VOC | Carbon disulfide | 3.07E-04 | 7.02E-05 |
| HAP/VOC | Carbon tetrachloride | 2.86E-05 | 6.52E-06 |
| HAP/VOC | Carbonyl sulfide | 5.46E-04 | 1.25E-04 |
| HAP/VOC | Chlorobenzene | 1.31E-03 | 2.98E-04 |
| VOC | Chlorodifluoromethane | 5.22E-03 | 1.19E-03 |
| HAP/VOC | Chloroethane (ethyl chloride) | 3.74E-03 | 8.55E-04 |
| HAP/VOC | Chloroform | 1.66E-04 | 3.80E-05 |
| HAP/VOC | Chloromethane (methylchloride) | 2.84E-03 | 6.47E-04 |
| HAP/VOC | Dichlorobenzene | 1.43E-03 | 3.27E-04 |
| VOC | Dichlorodifluoromethane | 8.81E-02 | 2.01E-02 |
| VOC | Dichlorofluoromethane | 1.25E-02 | 2.86E-03 |
| HAP | Dichloromethane (methylene chloride) | 5.64E-02 | 1.29E-02 |
| VOC | Dimethyl sulfide (methyl sulfide) | 9.02E-03 | 2.06E-03 |
| VOC | Ethane | 1.86E-01 | 4.25E-02 |
| VOC | Ethanol | 8.73E-03 | 1.99E-03 |
| VOC | Ethyl mercaptan (ethanethiol) | 9.86E-04 | 2.25E-04 |
| HAP/VOC | Ethylbenzene | 3.41E-03 | 7.78E-04 |
| HAP/VOC | Ethylene dibromide | 8.72E-06 | 1.99E-06 |
| VOC | Fluorotrichloromethane | 4.85E-03 | 1.11E-03 |
| HAP/VOC | Hexane | 3.94E-03 | 9.00E-04 |
| * | Hydrogen sulfide | 2.25E-02 | 5.13E-03 |
| HAP | Mercury (total) | 1.36E-04 | 3.10E-05 |
| HAP/VOC | Methyl ethyl ketone (MEK) | 3.56E-03 | 8.13E-04 |
| HAP/VOC | Methyl isobutyl ketone (MIBK) | 1.30E-03 | 2.98E-04 |
| VOC | Methyl mercaptan | 8.34E-04 | 1.90E-04 |
| VOC | Pentane | 1.65E-03 | 3.77E-04 |
| HAP/VOC | Perchloroethylene (tetrachloroethylene) | 2.87E-02 | 6.55E-03 |
| VOC | Propane | 3.41E-03 | 7.78E-04 |
| * | trans-1,2-Dichloroethene | 1.28E-02 | 2.92E-03 |
| HAP/VOC | Trichoroethylene | 1.72E-02 | 3.93E-03 |
| HAP/VOC | Vinyl chloride | 2.13E-02 | 4.86E-03 |
| HAP/VOC | Xylenes | 8.94E-03 | 2.04E-03 |
| HAP | Hydrochloric Acid | 3.52E+00 | 8.04E-01 |
| HAP/VOC | Benzene | | |
| | No or unknown co-disposal | 1.04E-03 | 2.37E-04 |
| VOC | NMOC (as hexane) | | |
| | Site-Specific Value | 3.45E+01 | 7.88E+00 |
| HAP/VOC | Toluene | | |
| | No or unknown co-disposal | 2.52E-02 | 5.75E-03 |
| | **Total TAPS** | **3.81** | **0.87** |
| | **Total HAPS** | **3.68** | **0.84** |
| | **Total VOCS** | **35.02** | **0.08** |

Notes:

* Not classified as either HAP or VOC

1. 1,1,2-Trichloroethane emissions calculated by LANDGEM but not in AP-42 listing (Table 2.4-1, 11/98)

**Potential Emission Calculations**
**ACLF - Wood Chipper Diesel Engine Emissions**

| | |
|---|---|
| Emission Point No. | **SC-E-1** |
| Model No. | **CAT C18** |
| Engine Power Rating (bhp) | 700 |
| Fuel Type | Distillate #2 |
| - maximum sulfur content | 0.50% |
| Maximum Firing Rate (gals/hr) | 38.0 |
| Maximum Heat Input Rating (Btu/hr) | 5,320,000 |
| (hp) | 2,090 *Large Engine* |
| Maximum Hours of Operation | 3,300 |
| Maximum Firing Rate (gals/yr) | 125,400 |
| Actual Annual Operation Limit (hrs/yr) | 8,760 |
| Annual Firing Rate (gals/yr) | 332,880 |
| Heat Capacity of Fuel (Btu/gal) | 140,000 |

| | | | Uncontrolled Potential to Emit | | |
|---|---|---|---|---|---|
| **Pollutant** | **CAS No.** | **Emission Factor (lb/MMBtu)** | **Emission Rate (lb/hr)** | **Emission Rate (lb/yr)** | **Emission Rate (ton/yr)** |
| Total Particulate Matter (PM)[1] | | 0.0697 | 0.37 | 1,224 | 0.61 |
| Particulate Matter (PM10)[2] | | 0.0573 | 0.30 | 1,006 | 0.50 |
| Sulfur Oxides ($SO_2$)[3] | | 0.51 | 2.69 | 8,866 | 4.43 |
| Nitrogen Oxides (NOx)[4] | | | **5.36** | 17,688 | 8.84 |
| Carbon Monoxide (CO)[4] | | | **0.95** | 3,135 | 1.57 |
| HC as VOC[4] | | | **0.12** | 396 | 0.20 |

| | | | Uncontrolled Potential to Emit | | | | |
|---|---|---|---|---|---|---|---|
| | **CAS Number** | **Emission Factor (lb/MMBtu)** | **Emission Rate (lb/hr)** | **Emission Rate (lb/yr)** | **Emission Rate (ton/yr)** | | **HAP** |
| Benzene | 71-43-2 | 7.76E-04 | 4.13E-03 | 1.36E+01 | 6.81E-03 | | HAP |
| Formaldehyde | 50-00-0 | 7.89E-05 | 4.20E-04 | 1.39E+00 | 6.93E-04 | | HAP |
| Naphthalene | 91-20-3 | 1.30E-04 | 6.92E-04 | 2.28E+00 | 1.14E-03 | | HAP |
| Toluene | 108-88-3 | 2.81E-04 | 1.49E-03 | 4.93E+00 | 2.47E-03 | | HAP |
| o-Xylenes | 1330-20-7 | 1.93E-04 | 1.03E-03 | 3.39E+00 | 1.69E-03 | | HAP |
| Acetaldehyde | 75-07-0 | 2.52E-05 | 1.34E-04 | 4.42E-01 | 2.21E-04 | | HAP |
| Acrolein | 107-02-8 | 7.88E-06 | 4.19E-05 | 1.38E-01 | 6.92E-05 | | HAP |
| Acenaphthene | 83-32-9 | 4.68E-06 | 2.49E-05 | 8.22E-02 | 4.11E-05 | | |
| Acenaphthylene | 203-96-8 | 9.23E-06 | 4.91E-05 | 1.62E-01 | 8.10E-05 | | |
| Anthracene | 120-12-7 | 1.23E-06 | 6.54E-06 | 2.16E-02 | 1.08E-05 | | |
| Benz(a)anthracene | 56-55-3 | 6.22E-07 | 3.31E-06 | 1.09E-02 | 5.46E-06 | | |
| Benzo(b)fluoranthene | 205-99-2 | 1.11E-06 | 5.91E-06 | 1.95E-02 | 9.74E-06 | | |
| Benzo(k)fluoranthene | 205-82-3 | 2.18E-07 | 1.16E-06 | 3.83E-03 | 1.91E-06 | | |
| Benzo(g,h,I)perylene | 191-24-2 | 5.56E-07 | 2.96E-06 | 9.76E-03 | 4.88E-06 | | |
| Chrysene | 218-01-9 | 1.53E-06 | 8.14E-06 | 2.69E-02 | 1.34E-05 | | |
| Dibenzo(a,h)anthracene | 53-70-3 | 3.46E-07 | 1.84E-06 | 6.07E-03 | 3.04E-06 | | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 4.14E-07 | 2.20E-06 | 7.27E-03 | 3.63E-06 | | |
| Benzo(a)pyrene | 50-32-8 | 2.57E-07 | 1.37E-06 | 4.51E-03 | 2.26E-06 | | |
| Total PAH | | | 2.69E-05 | 8.87E-02 | 4.44E-05 | | |
| Fluoroanthene | 206-44-0 | 4.03E-06 | 2.14E-05 | 7.08E-02 | 3.54E-05 | | |
| Fluorene | 86-73-7 | 1.28E-05 | 6.81E-05 | 2.25E-01 | 1.12E-04 | | |
| Phenanthrene | 85-01-8 | 4.08E-05 | 2.17E-04 | 7.16E-01 | 3.58E-04 | | |
| Pyrene | 129-00-0 | 3.71E-06 | 1.97E-05 | 6.51E-02 | 3.26E-05 | | |
| Propylene | 115-07-1 | 2.79E-03 | 1.48E-02 | 4.90E+01 | 2.45E-02 | | |
| **Total HAPS** | | | **7.94E-03** | | **1.31E-02** | | |

[1] Total PM emission factor (AP-42, Table 3.4-2, 10/96)
[2] $PM_{10}$ emission factor is the sum of filterable and condensible PM10 emission factors (AP-42,Table 3.4-2, 10/96)
[3] $SO_2$ emission factor multiplied by percent sulfur content of fuel
[4] Manufacturer (Caterpillar) provided worst case emission estimates "Not to exceed data"

**Potential Emission Calculations**

**ACLF - Power Wood Screen Diesel Engine Emissions**

| | | |
|---|---|---|
| Emission Point No. | SC-E-2 | |
| Model No. | Deutz BF4L913 | |
| Engine Power Rating (bhp) | 106 | |
| Fuel Type | Distillate #2 | |
| - maximum sulfur content | 0.50% | |
| Maximum Firing Rate (gals/hr) | 6.1 | |
| Maximum Heat Input Rating (Btu/hr) | 858,600 | |
| (hp) | 337 | *Small Engine* |
| Maximum Hours of Operation | 3,300 | |
| Maximum Firing Rate (gals/yr) | 20,238 | |
| Actual Annual Operation Limit (hrs/yr) | 8,760 | |
| Annual Firing Rate (gals/yr) | 53,724 | |
| Heat Capacity of Fuel (Btu/gal) | 140,000 | |

| | | | Uncontrolled Potential to Emit | | |
|---|---|---|---|---|---|
| Pollutant | CAS No. | Emission Factor (lb/MMBtu) | Emission Rate (lb/hr) | Emission Rate (lb/yr) | Emission Rate (ton/yr) |
| Total Particulate Matter (PM)[1] | | 0.31 | 0.27 | 878 | 0.44 |
| Particulate Matter (PM10)[2] | | 0.31 | 0.27 | 878 | 0.44 |
| Nitrogen Oxides (NOx) | | 4.41 | 3.79 | 12,495 | 6.25 |
| Sulfur Oxides ($SO_2$) | | 0.29 | 0.25 | 822 | 0.41 |
| Carbon Monoxide (CO) | | 0.95 | 0.82 | 2,692 | 1.35 |
| TOC as VOC[3] | | 0.35 | 0.30 | 992 | 0.50 |

| | | | Uncontrolled Potential to Emit | | | | |
|---|---|---|---|---|---|---|---|
| | CAS Number | Emission Factor (lb/MMBtu) | Emission Rate (lb/hr) | Emission Rate (lb/yr) | Emission Rate (ton/yr) | | HAP |
| Benzene | 71-43-2 | 9.33E-04 | 8.01E-04 | 2.64E+00 | 1.32E-03 | | HAP |
| Formaldehyde | 50-00-0 | 1.18E-03 | 1.01E-03 | 3.34E+00 | 1.67E-03 | | HAP |
| Naphthalene | 91-20-3 | 8.48E-05 | 7.28E-05 | 2.40E-01 | 1.20E-04 | | HAP |
| Toluene | 108-88-3 | 4.09E-04 | 3.51E-04 | 1.16E+00 | 5.79E-04 | | HAP |
| o-Xylenes | 1330-20-7 | 2.85E-04 | 2.45E-04 | 8.08E-01 | 4.04E-04 | | HAP |
| Propylene | 115-07-1 | 2.58E-03 | 2.22E-03 | 7.31E+00 | 3.66E-03 | | HAP |
| Acetaldehyde | 75-07-0 | 7.67E-04 | 6.59E-04 | 2.17E+00 | 1.09E-03 | | HAP |
| Acrolein | 107-02-8 | 9.25E-05 | 7.94E-05 | 2.62E-01 | 1.31E-04 | | HAP |
| 1,3-Butadiene | 106-99-0 | 3.91E-05 | 3.36E-05 | 1.11E-01 | 5.54E-05 | | HAP |
| Acenaphthene | 83-32-9 | 1.42E-06 | 1.22E-06 | 4.02E-03 | 2.01E-06 | | |
| Acenaphthylene | 203-96-8 | 5.06E-06 | 4.34E-06 | 1.43E-02 | 7.17E-06 | | |
| Anthracene | 120-12-7 | 1.87E-06 | 1.61E-06 | 5.30E-03 | 2.65E-06 | | |
| Benz(a)anthracene | 56-55-3 | 1.68E-06 | 1.44E-06 | 4.76E-03 | 2.38E-06 | | |
| Benzo(b)fluoranthene | 205-99-2 | 9.91E-08 | 8.51E-08 | 2.81E-04 | 1.40E-07 | | |
| Benzo(k)fluoranthene | 205-82-3 | 1.55E-07 | 1.33E-07 | 4.39E-04 | 2.20E-07 | | |
| Benzo(g,h,I)perylene | 191-24-2 | 4.89E-07 | 4.20E-07 | 1.39E-03 | 6.93E-07 | | |
| Chrysene | 218-01-9 | 3.53E-06 | 3.03E-06 | 1.00E-02 | 5.00E-06 | | |
| Dibenzo(a,h)anthracene | 53-70-3 | 5.83E-07 | 5.01E-07 | 1.65E-03 | 8.26E-07 | | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 3.75E-07 | 3.22E-07 | 1.06E-03 | 5.31E-07 | | |
| Benzo(a)pyrene | 50-32-8 | 1.88E-07 | 1.61E-07 | 5.33E-04 | 2.66E-07 | | |
| Total PAH | | | 6.10E-06 | 2.01E-02 | 1.01E-05 | | |
| Fluoroanthene | 206-44-0 | 7.61E-06 | 6.53E-06 | 2.16E-02 | 1.08E-05 | | |
| Fluorene | 86-73-7 | 2.92E-05 | 2.51E-05 | 8.27E-02 | 4.14E-05 | | |
| Phenanthrene | 85-01-8 | 2.94E-05 | 2.52E-05 | 8.33E-02 | 4.17E-05 | | |
| Pyrene | 129-00-0 | 4.78E-06 | 4.10E-06 | 1.35E-02 | 6.77E-06 | | |
| **Total HAPS** | | | **5.47E-03** | | **9.02E-03** | | |

[1] Total PM emission factor (AP-42, Table 3.3-1, 10/96)

[2] PM is assumed to equal $PM_{10}$.

[3] TOC emission factor is for exhaust (Table 3.3-1, 10/96).

# Appendix C

Ada County Solid Waste Management Department
Ada County Landfill
Boise, Idaho

Tier I Operating Permit No. T1-060050

Facility ID No. 001-00195

## Compliance Plan Taken from the Application

## *10.2 Compliance Plans Summary*

This section provides the information necessary to fulfill the requirements and compliance status listed above per emissions unit basis. Table 10.2-1 summarizes the compliance certification plan for the wood chipper and power screens. Table 10.2-2 summarizes the compliance certification plan for the HHLF Cell and NRC. A schedule of compliance with compliance certifications that will occur during the term of the permit is included in the "Proposed Compliance Demonstration Method" description. All compliance plans not listed in this section are otherwise included in Section 9.

**Table 10.2-1**
Wood Chipper and Power Screen Compliance Certification During Permit Term

| Emissions Unit | Citation | Applicable Requirements | Proposed Compliance Demonstration Method | Frequency of Certification |
|---|---|---|---|---|
| Wood Chipper and Power Screen and Two Diesel Generators | PTC Condition 3.3 & IDAPA 58.01.01.625 | **Visible Emissions Limit**. Shall not exceed 20% opacity for more than 3 minutes in any 60 minute period unless 20% opacity is exceeded due to the presence of uncombined water, nitrogen oxides, and/or chlorine gas. | ACLF will conduct quarterly see/no see evaluations of visible emissions. ACLF will maintain records of the results of each visible emissions inspection per PTC condition 3.7. | Quarterly. |
| Wood Chipper and Power Screen and Two Diesel Generators | PTC Condition 3.4 & IDAPA 58.01.01.650 – 651 | **Reasonable Control of Fugitive Emissions.** All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. | ACLF will comply with these requirements and take reasonable precautions to prevent fugitive dust from becoming airborne. | Wood chipping operations wetted down periodically, as needed. |
| Wood Chipper and Power Screen and Two Diesel Generators | PTC Condition 3.5 & IDAPA 58.01.01.725 | **Fuel Oil Sulfur Content.** No diesel fuel oil containing sulfur in excess of 0.5% by weight shall be burned in the diesel engine generators. | ACLF will retain sulfur content documentation from the vendor delivering fuel oil to the facility. Records will be kept onsite for the most recent 2-year period. | Per Diesel Fuel Delivery. |
| Wood Chipper and Power Screen and Two Diesel Generators | PTC Condition 3.6 | **Hours of Operation** – The operation of each diesel engine generator shall not exceed a maximum of 3,300 hours in any consecutive 12-month period. | The ACLF will monitor and record the date and hours of operation for each diesel generator. Records will be kept onsite for the most recent 2-year period. | Daily. |

**Table 10.2-2**
HHLF Cell and NRC LFG Collection and Control Compliance Certification During Permit Term

| Emissions Unit | Citation | Applicable Requirements | Proposed Compliance Demonstration Method | Frequency of Certification |
|---|---|---|---|---|
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.3 & IDAPA 58.01.01.625 | **Visible Emissions Limit**. Shall not exceed 20% opacity for more than 3 minutes in any 60 minute period unless 20% opacity is exceeded due to the presence of uncombined water, nitrogen oxides, and/or chlorine gas. | ACLF staff perform a see/no see evaluation for each flare of visible emissions. If visible emissions are observed from any flare, a Method 9 opacity test will be performed by the procedures contained in Rule 625. | Quarterly. |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.4 & IDAPA 58.01.01.786 | **Particulate Matter Emissions Limit for Incinerators**. PM emissions from each of the flares shall not exceed 0.2 pounds per 100 pounds of landfill gas combusted. | Demonstrated compliance with this requirement in previous PTC application submittal to IDEQ. | Condition met. |
| HHLF Cell and NRC LFG Collection and Control | Permit Condition 2.5 & IDAPA 58.01.01.776 | **Control of Odors – from Flares**. No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids into the atmosphere in such quantities as to cause air pollution. | The ACLF controls odor by collecting LFG and combusting through the enclosed flares. The ACLF must maintain records of all odor complaints received (date, description, validity) and take appropriate corrective action as necessary and date action was taken. | Per odor complaint received. |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.6 & IDAPA 58.01.01.130-136 | **Excess Emissions**. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130 – 136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns. | ACLF will document and submit excess emission events for the LFG control system according to the procedures and requirements Rules 130 – 136. | Per excess emissions event. |

**Table 10.2-3**
HHLF Cell and NRC LFG Collection and Control Compliance Certification During Permit Term

| Emissions Unit | Citation | Applicable Requirements | Proposed Compliance Demonstration Method | Frequency of Certification |
|---|---|---|---|---|
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.9 | **Operations and Maintenance Manual.** Within 60 days after startup of landfill gas flares, the permittee shall have developed an O&M manual for the landfill gas flares, which describes the procedures that will be followed to comply with General Provision 2 and the manufacturer specifications for the flares. This manual shall remain onsite at all times and shall be made available to IDEQ representatives upon request. Within 30 days of O&M manual development the permittee shall submit a copy of the manual to IDEQ. | The LFG O&M manual is located at the ACLF and is available upon request. | Condition met. |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.13, IDAPA 58.01.01.157, & 40 CFR 756-757 | **Performance Test of LFG Control System.** Establish procedures and requirements for test methods and results. | ACLF will conduct an initial performance test before April 28, 2007 (which is the date the landfill is required to install a collection and control system). | Initial performance test will be conducted before April 28, 2007. |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.14 and IDAPA 58.01.01.859 | **Reporting Requirements.** The permittee shall submit an annual NMOC report until nonmethane emissions are less than 50 megagrams per year in accordance with IDAPA 58.01.01.859.05.a.ii. The report shall be submitted to IDEQ by September 30 each year. | ACLF will prepare and submit an annual NMOC report to IDEQ by September 30 each year until the NMOC results are less than 50 megagrams per year. | Annually – by September 30 each year. |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.15 and IDAPA 58.01.01.859 | **Permitting Requirements.** In accordance with IDAPA 58.01.01.859.04.b, the permittee shall submit a complete Tier I operating permit application within one year of commencing construction of the NRC. | This application is intended to satisfy the Tier I Operating Permit requirements per IDAPA 58.01.01.300-399. | Condition met. |

**Table 10.2-4**
HHLF Cell and NRC LFG Collection and Control Compliance Certification During Permit Term

| Emissions Unit | Citation | Applicable Requirements | Proposed Compliance Demonstration Method | Frequency of Certification |
|---|---|---|---|---|
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.16 | **Permitting Requirements.** The permittee shall submit a complete PTC modification application for the additional control system within six months after the first time the LFG from the ACLF reaches 90% of the total design capacity of the exiting control system (i.e., 4,000 scfm), or whenever the design for the additional control system is complete. The application shall address how the LFG from ACLF will be controlled if and when the LFG reaches the design capacity of the existing control system (i.e., 4,000 scfm of LFG). | The ACLF will submit a PTC modification within 6 months of the first time the LFG reaches 90% of the total design capacity | To be determined at a future date when the ACLF reaches 90% of the design capacity of one flare, based on the current operational design of one flare operating and the other flare providing 100% backup. (i.e., 2,000 scfm of LFG). |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.27 | **When do I have to comply with this subpart? (40 CFR 63.1945)** | The ACLF is required to install a collection and control system in accordance with 40 CFR 60.752(b)(2) by April 28, 2007. | Required to be in full compliance with this provision by April 28, 2007. |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.30 | **How is compliance determined? (40 CFR 63.1960)** | The ACLF is required to demonstrate compliance with 40 CFR 60, Subpart WWW. | Required to be in full compliance with this provision by April 28, 2007. |
| HHLF Cell and NRC LFG Collection and Control | PTC Condition 2.33 | **What records and reports must I keep and submit? (40 CFR 63.1980)** | The initial annual report will be submitted to IDEQ by October 28, 2007 in order to comply with the recorded information in 40 CFR 60.757(f)(1) through (f)(6).<br><br>After submittal of the initial annual report by April 28, 2007, a semi-annual report will be prepared and submitted to IDEQ every six months to comply with the requirements of 40 CFR Subpart WWW. | The first initial semi-annual report will be submitted to IDEQ by October 28, 2007.<br><br>Semi-Annual reports will be submitted to IDEQ by April 28 and October 28 each year. |

# Appendix D

Ada County Solid Waste Management Department
Ada County Landfill
Boise, Idaho

Tier I Operating Permit No. T1-060050

Facility ID No. 001-00195

# Facility-wide Permit Conditions Discussion

## 1.1 Facility-wide Applicable Requirements

The following requirements apply generally to emissions units at the facility. The regulatory authority for each permit condition is cited in the permit.

### 1.1.1 Permit Requirement - Fugitive Emissions - [IDAPA 58.02.02.650-651, 5/1/94]

#### 1.1.2.1 Applicable Requirement

Permit Condition 2.1 states that all reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.02.02.650-652.

#### 1.1.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.2 states that the permittee is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive particulate emissions. IDAPA 58.02.02.651 gives some examples of ways to reasonably control fugitive emissions which include using water or chemicals, applying dust suppressants, using control equipment, covering trucks, paving roads or parking areas, and removing materials from streets.

Permit condition 2.3 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after a valid complaint is received. The permittee is also required to maintain records that include the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure that the methods being used by the permittee to reasonably control fugitive particulate matter emissions whether or not a complaint is received, Permit Condition 2.4 requires that the permittee conduct periodic inspections of the facility. The permittee is required to inspect potential sources of fugitive emissions during daylight hours and under normal operating conditions. If the permittee determines that the fugitive emissions are not being reasonably controlled the permittee shall take corrective action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive emission inspection.

Permit Conditions 2.3 and 2.4 require the permittee to take corrective action as expeditiously as practicable. In general, the Department believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive particulate emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

Monthly facility-wide inspections are required. Records of each inspection shall be kept in accordance with Permit Condition 2.12. Reporting shall be in accordance with the requirements of Permit Condition 2.10.

### 1.1.2 Permit Requirement - Odorous Gas, Liquids, or Solids - [IDAPA 58.02.02.775-776, 5/1/94]

#### 1.1.2.1 Applicable Requirement

Permit Condition 2.5 and IDAPA 58.02.02.776 both state: *"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."*

#### 1.1.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Permit Condition 2.6 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

### 1.1.3 Permit Requirement - Visible Emissions - [IDAPA 58.02.02.625, 4/5/00]

#### 1.1.3.1 Applicable Requirement

The requirements of IDAPA 58.02.02.625 and Permit Condition 2.7 state: *"(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined . . ."* by IDAPA 58.02.02.625. This provision does not apply when the presence of uncombined water, $NO_x$, and/or chlorine gas are the only reason(s) for the failure of the emission to comply with the requirements of this rule.

#### 1.1.3.2 Monitoring, Recordkeeping, and Reporting

To ensure reasonable compliance with the visible emissions rule, Permit Condition 2.8 requires that the permittee conduct routine visible emissions inspections of the facility. The permittee shall conduct a quarterly facility-wide inspection of potential sources of visible emissions, during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in its annual compliance certification and in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken..

### 1.1.4 Permit Requirement - Excess Emissions - [IDAPA 58.02.02.130, 4/5/00]

#### 1.1.4.1 Applicable Requirement

Permit Condition 2.9 requires that the permittee comply with the requirements of IDAPA 58.02.02.130-136 for startup, shutdown, scheduled maintenance, safety measures, upsets, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical memorandum. It should, however, be noted that IDAPA 58.02.01 subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the operating permit as applicable requirements. These provisions of the *Rules* only apply if the permittee anticipates requesting consideration under subsection 132.02 of the *Rules* to allow DEQ to determine if an enforcement action to impose penalties is warranted. Section 132.01

states *" . . . The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 132.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05."*

Failure to prepare or file procedures pursuant to Sections 133.02 and 134.04 is not a violation of the *Rules* in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in Subsections 133.02, 133.03, 134.04, and 134.05, and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

Excess emissions procedures for the B&W boiler start-up can be found in TASCO's Tier I application in the Public Comment Package.

#### 1.1.4.1 Monitoring, Recordkeeping, and Reporting

The compliance demonstration is contained within the text of Permit Condition 2.9. No further clarification is necessary here.

### 1.1.5 Permit Requirement - Open Burning - [IDAPA 58.02.02.600-616, 4/5/00]

Refer to Permit Condition 2.15. The permittee shall comply with all applicable portions of IDAPA 58.02.02.600-616 for open burning.

### 1.1.6 Permit Requirement – Renovation and Demolition - [40 CFR 61, Subpart M]

Refer to Permit Condition 2.16. The permittee shall comply with all applicable portions of 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

### 1.1.7 Permit Requirement - Sulfur Content - [IDAPA 58.02.02.728, 729, 5/1/94]

#### 1.1.7.1 Applicable Requirement

Refer to Permit Conditions 2.14. These permit conditions contain sulfur content limits for fuel oils and coal, as specified in IDAPA 58.02.02.728 and 729.

#### 1.1.7.2 Monitoring, Recordkeeping, and Reporting

Refer to Permit Conditions 2.14.1 and 2.14.2. The permittee is required to maintain supplier's certifications for sulfur content for each fuel shipment received. In cases were there is no supplier's certification, the permittee must perform an analysis in accordance with appropriate ASTM methodology.

### 1.1.8 Recycling and Emissions Reduction - [40 CFR 82, Subpart F]

Refer to Permit Conditions 2.18.

# Appendix E

Ada County Solid Waste Management Department
Ada County Landfill
Boise, Idaho

Tier I Operating Permit No. T1-060050

Facility ID No. 001-00195

# Insignificant Activities List Taken from the Application

## 12.2 Insignificant Emissions

This section contains the insignificant emissions units (IEUs) at the ACLF. IDAPA 58.01.01.317 specifies the criteria for identifying insignificant activities. Section (a.) lists the categorically insignificant emission units. This is a list of process, devices, or facilities that need not be listed in an operating permit application. The categorically insignificant emission units identified at the ALCF are listed in Table 12.2-1, with a citation of the basis for their IEU designation.

IDAPA 58.01.01.317.b defines those emission units that are insignificant based on size or production rate. These units must be listed in the application, along with the documentation necessary to verify their insignificant status. Table 12.2-2 lists the insignificant emission units based on size or production rate followed by citation(s) of the basis for their IEU status. The documentation necessary to verify the IEU status of each of the units is contained in Sections 12.2 through 12.7. The final section contains a copy of IDAPA 58.01.01.317 for reference.

**Table 12.2-1**
Presumptively Insignificant Emission Units

| IEU ID | Description | Basis for IEU Designation (IDAPA 58.01.01) |
|---|---|---|
| Facility-wide | Mobile transport tanks | 317.01.a.i.2 |
| Hazardous Materials Building | Pressurized storage of inert gases | 317.01.a.i.5 |
| Facility-wide | Storage of solid material | 317.01.a.i.6 |
| LFG Collection and Control System | Continuous emission monitors | 317.01.a.i.8 |
| Facility-wide | Internal combustion engines for powering a vehicle | 317.01.a.i.10 |
| Facility-wide and Structures | Plant maintenance and upkeep activities. | 317.01.a.i.28 |
| Facility-wide Structures | Comfort air conditioning | 317.01.a.i.41 |
| Facility-wide Activities | Equipment used for cutting, sawing, grinding, sanding, polishing, drilling, welding, brazing, and other uses. | 317.01.a.i.49 |
| Facility-wide | Solid waste containers | 317.01.a.i.69 |

**Table 12.2-2**
Insignificant on the Basis of Size or Production Rate

| IEU ID | Description | Basis for IEU Designation (IDAPA 58.01.01) |
|---|---|---|
| Facility-Wide | Liquid fuel tanks ≤10,000 gallons | 317.01.b.i.3 |
| Facility-Wide | Welding using less than 1 ton of rod per day. | 317.01.b.i.9 |
| Facility-Wide Structures | Combustion source, space and hot water heaters <5 MMBtu/hr | 317.01.b.i.9 and18 |